

Work Plan for:
Vegetation Test Plot – Mine Site
(Task E.7 of the Schedule for Development of the Closeout Plan)
Molycorp, Inc. - Questa Division

1. Background, Rationale, Objectives and Timing

1.1 Background

On December 30, 1999 the New Mexico Mining and Minerals Division approved an extension for approval of the closeout plan for the Mine area. The extension included tasks yet to be completed. The vegetation test plot work plan (Task E.7) is due January 31, 2000.

1.2. Rationale

The vegetation test plot program is designed to demonstrate that the revegetation program in progress at the site, and based on over 20 years of research and experience, will provide a condition that will lead to a self-sustaining ecosystem upon closure. Because of the ongoing research program and the extensive plantings that have occurred over the last four years, this vegetation test plot program will focus on measuring, evaluating and reporting on establishment of vegetation at the site.

An update report will be submitted in November 2000 however, it is anticipated that data collection on the vegetation program will be ongoing and subsequent reports will be submitted as necessary. By submitting the update report in November 2000 it will be possible to plan any additional test plots required so they can be installed during the planting season of 2001.

1.3 Objective

The objective of the vegetation test plot work plan is to:

Demonstrate that vegetation can be successfully established at the site. In evaluating previous plantings, first, second, third and fourth year survival data will be used.

Provide an evaluation of plant materials that are appropriate for reclamation at the site, including species, container size (transplants), material type (seed, transplants, poles, etc.).

Where possible, evaluate alternative planting and post-planting techniques (i.e., irrigation, fertilization, etc.).



1.4 Timing

The work plan is submitted January 31, 2000 with a 30-day review and revision period. The majority of the work will take place from June to August 2000 with the update report submitted November 30, 2000. It should be noted that much of this work will be coordinated by New Mexico State University researchers.

2. Scope of work

2.1. Demonstrate that vegetation can be successfully established at the site

- a) Survey overburden piles and note established vegetation.
- b) Compare established vegetation to records, where available.
- c) Re-evaluate transects established in 1997 for operational plantings. Survival, species and evidence of growth will be evaluated.
- d) Establish new transects to evaluate the continued operational plantings. Survival, species and evidence of growth will be evaluated.
- e) Statistical analysis of data (this portion of the study may not be available in the November 2000 report, however once available this information will be provided).

2.2. Provide an evaluation of plant materials that are appropriate for reclamation at the site, including species, container size (transplants), material type (seed, transplants, poles, etc.).

- a) Summarize previous research plots / results as well as the evaluations from task 2.1 based on planting materials and methods.
- b) Analyze planting success based on planting materials and methods.
- c) Develop documented, site specific list of recommended protocols for the planting program.

2.3. Where possible, evaluate alternative planting and post-planting techniques (i.e., irrigation, fertilization, etc.).

- a) Evaluate fertilizer at planting compared with no fertilizer at planting on survival of transplants.
- b) Evaluate effects of subsequent fertilizer on survival and vigor on established plantings.
- c) Evaluate effects of irrigation on survival and vigor on plantings.
- d) Part of this program is an ongoing study of fertilizer formulations and rates on growth of seedlings. This information will not be available in the report submitted in November 2000, however once this information is available it will be submitted.